



**HUMAN PERFORMANCE FACTORS GROUP CHAIRMAN'S
FACTUAL REPORT**

Human Performance Attachment – Vehicle Operator Hand and Foot Hovering Procedures

Tempe, Arizona

HWY18MH010

(3 pages)

In-Vehicle Specifics - Left Seat

There are certain critical elements and terms that trainers use when teaching trainees how to operate self driving vehicles from the left seat. This portion of the documentation covers specific items

Hand Positioning

Touch Grip*



How?

Hands basically stay at the 8 O'clock and 4 O'clock position. Palms are lightly on the steering wheel. The VO is to keep contact with the wheel, but yet they allow the wheel to move unrestricted through their palms. The touch grip is crucial to quickly reacting if necessary.

Why?

We use the touch grip to ensure the VO is in the proper position to react as quickly as possible if a takeover is necessary. If the vehicle drops out of self driving mode, our hands are already in position to finish the turn or make the necessary maneuver smoothly and quickly. There is also a hands on diagnostic that can be triggered if the VO's hands are off the wheel for ~30 seconds.

*Sometimes curious passengers may ask the VO to take their hands off the wheel to prove the vehicle is driving itself. If the driving scenario allows, the VO may move to a close grip for 5-10 seconds to show the wheel moving without assistance. Close grip is where the VO removes their hands from the wheel but keep their hands in the ready position.

****DO NOT allow trainees to go hand over hand with the wheel or follow the wheel with their hands as the wheel rotates. Both circumstances lead to the trainee being out of position which can lead to decreased reaction time and unnecessary jerkiness when they take over.**

Foot Positioning

Hovering/Shadowing Pedals



Brake Hover

How?

The VO should be hovering over the brake in scenarios when the vehicle is coming to a stop. Red lights, stop signs, pedestrians near the roadway, cyclists near the roadway, and slowing down for stopped traffic are just a few examples of scenarios a VO would hover over the brake.

Why?

Hovering over the proper pedal will allow the VO to make a smooth and quick takeover if necessary. This is critical for ensuring safety and rider/passenger comfort.



Accelerator Hover

How?

The VO should be hovering over the accelerator in scenarios when the vehicle is at speed with traffic behind the SDU. The VO should also hover over the accelerator in scenarios where the SDU was stopped but begins accelerating (ex. Red light turns green or all clear at a stop sign intersection after stopping).

These are just a few examples of scenarios a VO would hover over the brake.

Why?

Hovering over the proper pedal will allow the VO to make a smooth and quick takeover if necessary. This is critical for ensuring safety and rider/passenger comfort.

*Note: In most circumstances we hover over the pedal we would be manually pushing if not in SD mode.